

- PLC
- HMI
- SENSOR
- ENCODER
- COUNTER
- INFORMATION

# D3 Series

## Specifications

### General Specifications

| Items                                     | Specifications  |
|---|---|
| Supply Voltage                            | 100/200 V AC +32%, -15% 50/60Hz<br>24 V DC (20 to 30 V DC)                      |
| Ambient Temperature                       | 0 to 55°C   |
| Ambient Humidity                          | 5 to 90%RH (No condensation)  |
| Withstand Voltage                         | 1,500 V AC 50/60Hz 1 minute,<br>between power supply and external terminal      |
| Insulation Resistance                     | 20 MΩ or more 500 V DC<br>between power supply and external terminal            |
| Vibration Resistance                      | Compliant with JIS C 0040   |
| Impact Resistance                         | Compliant with JIS C 0041   |
| Noise Resistance                          | 1 kV between power supply, external terminal, and<br>outer case NEMA (ISC3-304) |
| Safety Standard                           | FCC class A Part 15, subpart J compliance, UL                                   |
| Surrounding Atmosphere in<br>Place of Use | No corrosive gases  |

### Performance Specifications

| Items            | Specifications  |             |  |             |   |
|------------------|---|-------------|--|-------------|---|
| CPU Model Number | SA-21-EX  | D3-330P     | SR-21-EX   | D3-330/340  | D3-350  |
| Control System   | Stored program and cyclic arithmetic processing system  |             |  |             |   |
| Programmer       | Program Setting System  |             | Relay symbol type  |             | Stage and relay   |
| KPP              | Program Memory Capacity<br>(Word)   | 3,701 words | 701 words (Basic) + 1,023<br>words (Expansion)<br>CMOS-RAM or EPROM* | 3,701 words | 7,680 words   |
| DirectSOFT       | Processing Speed  |             |  |             |   |
| Terminator I/O   | I/O Point   |             |  |             | Up to 368 points  |
|                  | Power Failure Holding Area  |             | Internal relay   |             | S0-S1777<br>C0-C1777<br>T0-T377<br>CT0-CT177<br>VO-V37777 |
|                  | Backup Battery  |             | Life of approx. 5 years (25°C)                                       |             |   |
|                  | Diagnosis Function  |             |  |             |   |
|                  | Monitoring abnormality (RUN output OFF)<br>Program memory parity check<br>Program memory syntax check (11 items)<br>Battery abnormality, I/O base voltage abnormality |             |  |             |   |

### Functional List

| Function Name                 | SA21 SA22                  |                          |                          | SR21 SR22 |                          |                          | Remarks  |
|-------------------------------|----------------------------|--------------------------|--------------------------|-----------|--------------------------|--------------------------|--|
|                               | Points                     | Bit Number               | Register Number          | Points    | Bit Number               | Register Number          |  |
| Input/Output                  | 168                        | 000 to 157<br>700 to 767 | 000 to 015<br>070 to 076 | 168       | 000 to 157<br>700 to 767 | 000 to 015<br>070 to 076 | The area that is not used as I/O can also be used as an internal relay.  |
| Stage                         | 128                        | 000 to 177               | 100 to 117               | —         | —                        | —                        | 000 to 137 can be held during a power failure.   |
| Internal Relay                | 77                         | 160 to 174               | 016 to 017               | 140       | 160 to 373               | 016 to 037               |  |
| Shift register                |                            | 200 to 277               | 020 to 027               | 128       | 400 to 577               | 040 to 057               |  |
| Counter/Timer                 | 64                         | 600 to 677               | —                        | 64        | 600 to 677               | —                        | Timer set value: 0.1 to 999.9 sec<br>Counter set value: 1 to 9,999   |
| Timer / Counter Elapsed Value | 64 words                   | —                        | 600 to 677               | 64 words  | —                        | 600 to 677               |  |
| Data Register                 | 128 bytes                  | —                        | 400 to 577               | 128 bytes | —                        | 400 to 577               |  |
| Special Internal Relay        | Initial Reset Relay        | —                        | —                        | 1         | 374                      | —                        | * Timer 10 times speed relay:<br>If this relay turns ON, all timers become 0.01-sec timers and operate at one-tenth the time of the set value. |
|                               | 0.1-sec Clock              | 1                        | 175                      | —         | 375                      | —                        |  |
|                               | Pose Relay                 | 1                        | 176                      | —         | 376                      | —                        |  |
|                               | Battery Abnormality Relay  | 1                        | 177                      | —         | 377                      | —                        |  |
|                               | Timer 10-times Speed Relay | 1                        | 770                      | —         | 770                      | —                        |  |
|                               | External Diagnosis Relay   | 1                        | 771                      | —         | 771                      | —                        |  |
|                               | Accumulator Large Flag     | 1                        | 772                      | —         | 772                      | —                        |  |
|                               | Coincidence Flag           | 1                        | 773                      | —         | 773                      | —                        |  |
|                               | Accumulator Small Flag     | 1                        | 774                      | —         | 774                      | —                        |  |
|                               | Carry Flag                 | 1                        | 775                      | —         | 775                      | —                        |  |
|                               | Zero Flag                  | 1                        | 776                      | —         | 776                      | —                        |  |
| Over Flag                     | 1                          | 777                      | —                        | 777       | —                        |                          |  |